REMARKS

Applicants appreciate the Office Action of February 9, 2005. Applicants respectfully submit that the pending claims are patentable over the cited references for at least the reasons discussed herein. Accordingly, Applicants respectfully request reconsideration and allowance of the pending claims in due course.

The Section 102 and 103 Rejections

The Office Action maintains the rejections set out in the previous Office Action of September 17, 2004. In particular, Claims 1-6, 10, 11, 16-19, 23-25 and 30-33 stand rejected under 35 U.S.C. 102(b) as being anticipated by *A Robust and Scalable Internet Server* by Dahlin *et al.* (hereinafter "Dahlin"). *See* Office Action, page 2. Claims 7-9, 12-15, 20-22 and 26-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dahlin in view of *Efficient Support for P-HTTP in Cluster-Based Web Servers* by Aron *et al.* (hereinafter "Aron"). *See* Office Action, page 9. Applicants respectfully submit that the pending claims are patentable over the cited references for at least the reasons discussed in Applicants' response of December 14, 2004. In the interest of brevity, Applicants will not repeat those arguments herein. However, the arguments made in Applicants' response of December 14, 2004 are hereby incorporated herein as if set forth in their entirety. Applicants will focus the present response on the Response to Amendment Section of the Office Action beginning on page 14.

Response to Arguments

As discussed in the Applicants' response of December 14, 2004, Claim 1 recites:

A method of distributing workload between a plurality of servers, the method comprising:

receiving a plurality of requests **over a first connection;**

parsing the plurality of requests **to determine application layer information associated with each of the plurality of requests;**

selecting destination servers for corresponding ones of the plurality of requests **based on the determined application layer information** associated with each of the plurality of requests; and

distributing the plurality of requests to the corresponding selected destination servers **over a plurality of second connections** associated with respective ones of the destination servers.

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Claims 30 and 32 contain corresponding system and computer program product recitations, respectively. Applicants respectfully submit that at least the highlighted recitations of, for example, Claim 1 are neither disclosed nor suggested by the Dahlin.

With respect to Applicants' arguments on "receiving a plurality of requests over a first connection", the Office Action states:

> From the cited portion of Dahlin, it is recited that the server 'parses any incoming data' If the server parses any incoming data then it must parse from the UDP and the TCP sockets. Furthermore, in order to parse data, the data must be received. Therefore, the server received data from the UDP and TCP sockets.

See Office Action, pages 14-15 (emphasis in the original). Applicants do not dispute that Dahlin may teach receiving data from the UDP and TCP sockets. However, the Office Action implies that since the cited portion of Dahlin discusses "listening to several UDP and/or TCP sockets," Dahlin teaches receiving **a plurality of requests over a first connection**. *See* Office Action, page 2 and pages 14-15. Just because Dahlin listens to several UDP and/or TCP sockets does not mean **that more than one request will be received over any single connection**. Nothing in the cited portion of Dahlin discloses or suggests receiving a plurality of requests over a first connection as recited in Claim 1. In particular, as discussed in the specification of the present invention, the first connection is established and **does not close** after the first request is received over the connection, thus, many requests may be received over the same first connection. *See* Specification, page 6, lines 24-29. Nothing in the cited portion of Dahlin discloses or suggests establishing a first connection as recited in Claim 1.

With respect to "parsing the request for application layer information," the Office Action claims that "Dahlin is considered to disclose selecting the servers based on the application layer information since this data is inherently necessary to determine where the data should be routed." *See* Office Action, page 15. Applicants respectfully disagree. Nothing in the cited portion of Dahlin appears to disclose or suggest parsing the requests for application layer information as recited in Claim 1.

The Office Action further implies that the since the cited portion of Dahlin discusses scheduling requests to the back-ends, Dahlin teaches selecting destination servers for corresponding ones of the plurality of requests **based on the determined application layer**

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information associated with each of the plurality of requests as recited in Claim 1. *See* Office

Action, page 2 and page 15. Applicants respectfully disagree. As discussed above, nothing in

the cited portion of Dahlin discloses or suggests parsing the requests for **application layer**

information, thus, it follows that nothing in the cited portion of the Dahlin discloses using the

application layer information to select destination servers. Requests can be scheduled without

using application layer information to schedule the requests. Nothing in the cited portion of

Dahlin discloses or suggests receiving a plurality of requests over a single connection and

distributing the request over **a plurality of second connections** to the destination servers as

further recited in Claim 1. Accordingly, Claims 1, 30 and 32 and the claims that depend

therefrom are patentable over Dahlin for at least these additional reasons discussed herein.

Claim 16 recites:

> A method of distributing workload between a plurality of servers, **wherein each
> of the plurality of servers is executing an instance of an application** which
> communicates over a network such that each of a plurality of HTTP requests **within a
> single HTTP 1.1** connection to the application may be distributed to any one of the
> plurality of servers, the method comprising:
> **defining a subset of the plurality of servers which are to receive HTTP
> requests having an indication of high priority**;
> establishing an HTTP 1.1 connection responsive to receiving a request for an
> HTTP 1.1 connection to the application over the network;
> receiving a first Hypertext Transport Protocol(HTTP) request within the HTTP
> 1.1 connection;
> **parsing the first HTTP request to determine if the first HTTP request has an
> indication of high priority based on application layer information included in the
> first HTTP request**; and
> **distributing the first HTTP request to one of the subset of the plurality of
> servers over a first connection if the first HTTP request has an indication of high
> priority**.

Claims 31 and 33 contain corresponding system and computer program product recitations,

respectively. Applicants respectfully submit that at least the highlighted recitations are neither

disclosed nor suggest by the Dahlin.

The Office Action points to page 4, column 1, lines 28-35 of Dahlin as teaching "that

backends may be on the same host or different hosts." Therefore, the Office Action concludes,

"there are a plurality of servers." *See* Office Action, page 16. Nothing in the cited portion of

Dahlin discloses or suggests a plurality of severs each executing an instance of an application. The Office Action implies that since Dahlin discussed different servers and different, Dahlin teaches defining a subset of the plurality of servers as recited in Claim 16. Applicants respectfully disagree. The fact that Dahlin routes different parts of the requests to different hosts, does not disclose or suggest defining a subset of servers as recited in Claim 16. Nothing in the cited portion of Dahlin discloses or suggests defining a subset of the plurality of servers which are to receive HTTP requests having an indication of high priority as recited in Claim 16. Thus, Applicants respectfully submit that Claims 16, 31 and 33 are patentable over the cited references for at least these additional reasons.

With respect to Dependent Claims 3 and 23, the Office Action states:

Maybe Dahlin does not clearly pointed [sic] out that there are start points and end points in the requests to be determined, but it is necessary for requests to include "start point" and "end point" for "front end" to "analyze and schedule" requests to the back-ends.

See Office Action, page 16. To satisfy a 102 rejection, the cited reference must teach all of the recitations of the pending claims. Thus, since Dahlin does not clearly point out the recitations of the claims, a prima facie case of anticipation has not been established. Accordingly, Claims 3 and 23 are patentable over the cited references for at least these additional reasons.

Dependent Claim 10 recites:

A method according to Claim 1, wherein distributing the plurality of requests comprises:
determining if a second connection associated with a selected destination servers exists;
establishing the second connection to the selected destination server if the second connection does not exist;
distributing a request to the selected destination servers over the second connection; and
repeating the determining, establishing and distributing for each of the plurality of requests.

Claim 24 contains similar recitations. Applicants respectfully submit that at least the highlighted portions of Claim 10 are neither disclosed nor suggested by the cited portion of Dahlin. In particular, the Office Action states:

Dahlin teaches "DNS lookup a more suitable server can be assigned" [Page 3, Col. 2, Lines 15-24], "The back-end is assigned either because it has a low load or because it has

unique content or services not available elsewhere" [Page 4, Col. 2, Lines 10-20], and Fig. 3 in Page 6, showing hosts can have more than one link processing in the same time.

See Office Action, page 17. Nothing in the cited portion of Dahlin discloses or suggests determining if a second connection exists and establishing the second connection if the second connection does not exist. Accordingly, Applicants respectfully submit for at least these additional reasons that Claims 10 and 24 are separately patentable over Dahlin. Thus, Claims 10 and 24 are patentable over the cited references for at least these additional reasons.

Applicants note that the Office Action does not address the Applicants arguments with respect to Claim 17. Accordingly, Applicants respectfully submit that Claim 17 is patentable over the cited references.

With respect to Claim 7, Applicant is aware that Claim 7 was rejected in view of Dahlin and Aron and Applicants addressed both references in Applicants' response of December 14, 2004. However, Applicants have repeated those arguments herein for the Examiner's convenience. The Office Action admits that Dahlin fails to disclose or suggest all of the recitations of Claims 7, 12-15 and 26-29. *See* Office Action, pages 9-13. However, the Office Action points to Aron as providing the missing teachings. For example, Claim 7 recites:

> A method according to Claim 1, wherein selecting destination servers for corresponding ones of the plurality of requests comprises:
> **determining if the determined application layer information associated with each of the plurality of requests is relevant application layer information;**
> **selecting one of a subset of the destination servers if the application layer information associated with each of the plurality of requests is relevant application layer information; and**
> **selecting a destination server other than a destination server in the subset of the destination servers if the application layer information associated with each of the plurality of requests is not relevant application layer information.**

The Office Action states that the fact that component 2 of Dahlin "routes the different parts of the request to the hosts most suited to answer them" (*See* Dahlin, page1, column 2) teaches the determining step of Claim 7. *See* Office Action, page 9. Applicants respectfully submit that nothing in the cited portion of Dahlin discloses or suggests determining if the determined application layer information associated with each of the plurality of requests is relevant application layer information as recited in Claim 7. In fact, as discussed above, nothing in the

cited portions of Dahlin specifically states that application layer information is ever determined. Furthermore, the Office Action admits that Dahlin does not teach the selecting steps of Claim 7. Accordingly, nothing in the cited portion of Dahlin discloses or suggests the determining or the selecting steps of Claim 7.

The Office Action points to Figure 1 of Aron as providing the missing teachings. The text corresponding to Figure 1 of Aron recites:

> Figure 1 illustrates the principle of LARD in a cluster with two back-ends and a working set of three targets (A, B and C) in the incoming request stream. The front-end directs all requests for A to back-end 1, and all requests for B and C to back-end 2. By doing so, there is an increased likelihood that the request finds the requested target in the cache at the back-end.

Aron, page 2, column 2. In other words, Figure 1 of Aron illustrates all requests for A being routed to a first back-end and all requests for B and C being routed to a second back-end. In contrast, Claim 7 recites determining if the determined application layer information is relevant application layer information, selecting one of a subset of the destination servers **if the application layer information associated with each of the plurality of requests is relevant application layer information** and selecting a destination server **other than a destination server in the subset of the destination servers** if the application layer information associated with each of the plurality of requests is **not relevant application layer information**. Nothing in the cited portion of Aron discloses or suggests these recitations of Claim 7. In fact, the destination of the requests in Aron is predetermined and is not based on the content of the request, *i.e.* not based on the presence or lack of presence of relevant application layer information. Thus, Claim 7 is patentable over the cited references for at least these additional reasons.

With respect to Applicants' arguments based on lack of motivation to combine, the Office Action states:

> ...the motivation, "for the requests find the requested targets", can be found in Aron [page 2, Col. 2. Lines 35-36], used to select the destination server, selecting one of a subset of the destination servers, and to distribute the requests.

See Office Action, page 17. Applicants respectfully submit that this motivation, again, is a motivation based on "subjective belief and unknown authority", the type of motivation that was

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rejected by the Federal Circuit in *In re Sang-su Lee*. In other words, the Office Action does not point to any specific portion of the cited references that would induce one of skill in the art to combine the cited references as suggested in the Office Action. Accordingly, the statement in the Office Action with respect to motivation does not adequately address the issue of motivation to combine as discussed in *In re Sang-su Lee*. Thus, it appears that the Office Action gains its alleged impetus or suggestion to combine the cited references by hindsight reasoning informed by Applicants' disclosure, which, as noted above, is an inappropriate basis for combining references. Thus, Claim 7 is patentable over the cited references for at least these additional reasons.

CONCLUSION

Applicants respectfully submit that pending claims are in condition for allowance for at least the reasons discussed above. Thus, allowance of the pending claims is respectfully requested in due course. Favorable reconsideration and allowance of the present application is respectfully requested.

Respectfully submitted,

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